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## **A role for endothelin receptor type A in migraine without aura susceptibility? A study in Portuguese patients.**

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### **Source**

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### **Abstract**

#### ***BACKGROUND AND PURPOSE:***

Migraine is a common neurological disabling disorder, and anomalies of vascular function have been implied in its pathophysiology. Several findings point to a possible role of the endothelin receptor type A (EDNRA) in migraine. We aim to assess the involvement of endothelin receptor type A (EDNRA) in migraine susceptibility in a sample of Portuguese migraineurs.

#### ***METHODS:***

Three tagging SNPs (rs702757, rs5333 and rs5335) were analysed in 188 cases - 111 without aura (MO) and 77 with aura (MA) - and 287 controls. A multivariable logistic regression was performed, including the three SNPs, adjusted for gender. Allelic and haplotypic frequencies were compared between cases and controls. Significant or promising results were confirmed by a multifactor dimensionality reduction analysis (MDR).

#### ***RESULTS:***

We found a nominal association for the rs702757 T-allele [odds ratio (OR) = 1.44, 95% confidence intervals (CI): 1.05-1.99] and for the TT-genotype (OR = 2.34, 95% CI: 1.12-4.90) for MO, that do not remain significant after multiple test correction. A trend towards an increased risk for MA regarding the C-allele of rs5333 was also found. However, an additional MDR analysis was performed, and highly

significant results were found for the two SNPs. The T-C-G haplotype (rs702757-rs5333-rs5335) was found to be significantly overrepresented in the MO subgroup, even after permutation was performed.

### ***CONCLUSIONS:***

Our results show additional findings for a role of EDNRA as a susceptibility factor for MO, although we cannot exclude the involvement of this gene in MA susceptibility in our population. Our study also emphasizes the need for replication of association findings in different populations.

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